WIDEBAND READOUT OF MAGNETO-RESISTIVE HEADS FOR DATA STORAGE

ABSTRACT

Apparatus to decrease the bandwidth limitations of a magnetic recording channel front-end that are caused extrinsic to read electronics, without degrading the signal-to-noise ratio performance of the channel front-end. A magnetic recording channel front-end for a magnetic storage system includes a magnetoresistive element (R_{mr}), an interconnect (303) and a readback amplifier (302). The interconnect (303), which has a characteristic impedance, couples the magnetoresitive element (R_{mr}) to the readback amplifier (302), which includes a gain stage and an active termination. The gain stage generates a first noise signal that has a first magnitude appearing at an output of the gain stage. The active termination generates a second noise signal that has a second magnitude that also appears at the output of the gain stage. The second magnitude is significantly less than the first magnitude, thereby the signal-to-noise ratio performance of the magnetic recording channel front-end is not adversely affected.

FIG 3